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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/634,279

08/05/2003

Ju-Hyung Kim

SAM-0484

7124

7590

12/07/2006

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EXAMINER

WANG, TED M

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,279

Applicant(s)

KIM, JU-HYUNG

Examiner

Ted M. Wang

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6 and 7 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 2 and 7 are objected to because of the following informalities:
- Claims 2 and 7, line 2, delete --- x K --- and line 3, delete --- and wherein k denotes an integer from 0 to N-1 ---.

The clock signals have a phase difference of $360/N$ from each other instead of $360/N \times K$, since the phases, $360/N \times K$, with $K = 0$ to $N-1$, are the individual clock signal phase. For example, with $N=8$, the 8 clock signals are CK45 ($360/8 \times K$, $K=1$), CK90, CK135, CK180, CK225 ($360/8 \times K$, $K=5$), CK270, CK315 and CK0 ($360/8 \times K$, $K=0$) and have a phase difference of 45 ($360/N$, $N=8$) degree from each other.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Jobling et al. (US 5,928,293).

- With regard claim 1, Jobling et al. discloses a clock and data recovery circuit comprising:

a clock signal generator for generating a plurality of clock signals (Fig.4 element 29 and column 5 lines 27-36), each clock signal having a different phase with respect to the others (Fig.5 CLK1 – CLK8, where the CLK1 –CLK8 are output phase with adjacent clocks by 1/n period);

a phase selector (Fig.4 element 30) for selecting one of the clock signals of the plurality of clock signals as a recovered clock signal (column 6 lines 18-21 and lines 44-46, where the recovered clock is at logic 30 output SCLK) if a first of the plurality of clock signals is in a first state (Fig.7, where CLK1-CLK3 are at “high state” and column 6 lines 22-34) and if a second of the plurality of clock signals is in a second state (Fig.7, where CLK5-CLK8 are at “low state” and column 6 lines 22-34) when a logic level transition of a received data is detected (Fig. 7, where CLK4 is at the transition of “high state” to “low state” and column 6 lines 31-34), and

a recovered data generator (Fig.4 element 32) for generating a recovered data (Fig.4 element DATA 16) that is synchronized with the recovered clock signal output from the phase selector, using the received data (column 7 lines 14-20).

- With regard claim 2, Jobling et al. further discloses wherein the clock signals have a phase difference of $360/N$ from each other, wherein N denotes an integer (Fig.5 and 7, column 5 lines 27-36 and column 7 lines 42-51).

Fig.5 of Jobling's reference shows that CLK1 is de-phased 180 degree with CLK5, CLK2 is de-phased 180 degree with CLK6, CLK3 is de-phased 180 degree with CLK7, and CLK4 is de-phased 180 degree with CLK8. Fig.5 clearly indicates that the N is 8 and the clock signals (CLK1-CLK8) have phase difference $360/8 = 45$ degree from each other (see particularly column 5 lines 27-36).

- With regard claim 6, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 7, which is a method claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.

Allowable Subject Matter

5. Claims 3-5 and 8-10 are objected to as being dependent upon an objected claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Reference(s) US 6,954,506 is cited because they are put pertinent to the clock signal recovery circuit used in receiver of universal serial bus. However, none of references teach detailed connection as recited in claim.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M Wang
Examiner
Art Unit 2611

Ted M. Wang

